

July 10, 2008

Mary L. Cottrell, Secretary  
Department of Public Utilities  
One South Station, Second Floor  
Boston, MA 02110

Re: **Technical Session on the Avoided Energy Supply Costs in New England: 2007 Final Report**

Dear Secretary Cottrell,

The Department of Public Utilities (“Department”) issued a memorandum on July 3, 2008 stating that it will grant the Attorney General’s requests for a technical session to allow for inquiries into the Avoided Energy Supply Costs in New England: 2007 Final Report (“2007 Report”). The technical session will take place on July 29, 2008. The Attorney General looks forward to learning about and reviewing the 2007 Report, and appreciates the Department’s willingness to allow for inquiries into the 2007 Report within an open and public forum. Given the request for a technical session originated with the Attorney General, the Department has directed the Attorney General to submit a detailed list of topics and questions that she wishes to have addressed at the technical conference on or before the close of business on July 10, 2008. Please find the attached Appendix that provides the Attorney General’s initial list of questions organized by topic.

To facilitate a full appreciation for the 2007 Report and calculation of avoided energy costs associated with ratepayer-funded energy efficiency programs, the Attorney General intends to inquire into the range of avoided cost projections and calculations included within the 2007 Report. The list of questions found in the Appendix represents an initial list of questions for the technical session that should help inform the Department and interested parties of the nature of the Attorney General’s inquiries. Over the coming weeks, the Attorney General will continue to develop, refine and revise her lines of inquiry to help facilitate the most productive and streamlined technical session possible. Additionally, to help maximize free flow of inquiry at the technical session, the Attorney General recommends that Synapse Energy Economics, Inc. make available background information and data not currently publicly available prior to the technical session and provide an introduction and overview of the 2007 Report at the Technical session. Although the Attorney General and other interested parties will ask specific questions, an overview of the 2007 Report will help provide a foundation for all inquiries and may moot others.

Thank you for your attention.

Sincerely,

Jamie Tosches, Assistant Attorney General  
Energy and Telecommunications Division

Service List

Appendix - Questions on the Report on  
2007 Avoided Energy Supply Costs in New England

I. Background, Application and Use of the 2007 Report

- The Avoided Energy Supply Costs in New England: 2007 Final Report (“2007 Report”) is the fifth of its kind. To the best of your ability, please briefly describe how the Avoided Energy Supply Cost Studies have evolved? Address the changes in scope of 2007 Report, legislation or regulation impacting that report, elements and priorities of the report as well as improvements (analytical, data and technology driven) in the 2007 Report.
- Discuss the literature searches that were conducted as part of the 2007 Report.
- Describe validation requirements related to selection of data sources, models and modeling techniques employed.
- Please walk through the Usage Guide for Avoided Energy Supply Costs provided in Appendix D of the 2007 Report with an example.
- Do the authors of the 2007 Report provide a spreadsheet model or tool for use by the Program Administrators? Discuss how the model is used. Does this model allow the users to generate their own avoided costs by changing input values and adding elements?

II. Natural Gas Price Forecast

*Commodity Price of Gas*

- Please describe the scope of and method for review of the Henry Hub Gas prices found in the 2007 Annual Energy Outlook (“2007 AEO”).
- Please explain whether any other aspects of assumptions used in the 2007 AEO, aside from the assumptions in the 2007 Report about technological progress in oil and gas, were not acceptable for use in establishing the Henry Hub Price Projections.
- Please describe your use of the 2007 AEO to establish the Henry Hub Natural Gas Forecasts for the Reference Case, and include a discussion of the changes that were made to the technological progress elements of the forecast.
- Please explain whether the Henry Hub estimated prices for the reference case, the high or low case scenario, or a blend of these scenarios should be or are used to establish various avoided energy costs. Please explain the rationale for the answer.

### *Forecast of Price for Electric Generation in New England*

- Please discuss the development of a monthly New England Regional Natural Gas Price Forecast; include an explanation for the reasons for the increase in the monthly basis differentials for power generators displayed in Exhibit 2-9 on page 2-14 of the 2007 Report.

### *Gas Utilities Avoided Gas Supply*

- Please discuss the steps necessary to convert data in the 2007 Report to an avoided gas supply cost factor for use to establish overall avoided gas supply costs in Massachusetts.
- Discuss the magnitude of any known differences between the assumptions relied upon in the determination of the sector specific avoided costs and marginal gas cost calculated by utilities for planning purposes.
- Discuss if and how the calculation of avoided energy costs should incorporate the effects of load shifting produced by energy efficiency and other demand side management (“DSM”) measures that may contribute to significant changes in load shapes.

### *Crude Oil and Other Fuels*

- Please discuss the adjustments made to AEO 2007 forecasts and assumptions for crude oil and other fuels forecasts.
- With respect to crude oil price forecast, why was low-sulfur light crude used as the basis, why did the 2007 Report conclude it was reasonable to adjust the new term forecast to represent, current market conditions, but for the long-term use on or more based on fundamentals, and what is it meant by fundamentals, and where are the data points recommended for prices of crude oil located in the 2007 Report?
- How is the forecast of crude oil and other fuels prices intended to be used by Program Administrators in determining the benefits associated with energy efficiency and other DSM programs?

## III. Electricity

### *Modeling*

- Please discuss how the Market Analytics model was selected for use by the authors. What other options were available? What procedures were used to determine the accuracy and validity of the results? What level of control over the inputs to the model did the authors of the 2007 have?
- Please discuss how the Global Energy zonal price forecasting model was selected for use. What other options were available? What procedures were used to determine the

accuracy and validity of the results? What level of control over the inputs to the model did the authors have?

- Discuss how the forecasted fuel price underlying the electric energy price forecast based on the same or different assumptions than those used in Chapters 2 and 3.
- Please discuss and describe the relationship between the Global and Market Analytics models.
- Was the 2007 Report reviewed or assessed by any third party, *e.g.* ISO-NE staff? If yes, please discuss.
- Regarding the marginal cost bidding assumptions, discuss the benchmarking results.
- Discuss the affect of ancillary services on the avoided costs.
- Discuss how ancillary services were reviewed and incorporated in the model as discussed on page 5-21.
- Discuss “unserved” energy and how it affects the avoided costs. Discuss any validation of the costs associated with unserved energy that were modeled and actual price experience.

#### *Load Forecast*

- Discuss how the authors tested the validity of their load and peak growth assumptions.
- Based on the level of energy efficiency and demand resource participation in the capacity and energy markets, discuss any changes that the authors would make to their load forecast. How would each state’s or region’s forecast change?
- Discuss load reconstitution and any affect it may have on future avoided cost calculations.

#### *Retail Price Adder*

- With regard to Retail Price Adder used in the 2007 Report (described on page 6-13 to 6-14), please discuss and describe the retail price adders included in the 2007 Report. Also, explain the methodology to develop the retail price adder, whether the adder was included in the previous avoided energy supply cost study completed in 2005, and if not, please explain why not.
- Explain why the costs represented in the retail adder are considered to be avoidable.

### *Demand Reduction Induced Price Effect (“DRIPE”)*

- Given that use of DRIPE to calculate avoided energy costs is relatively new, please describe all and any remaining uncertainties with regard to the scope and application of both energy and capacity DRIPE.
- Please explain why this 2007 Report includes energy DRIPE when the previous avoided energy supply cost study excluded energy DRIPE.
- Discuss how ISO-NE market changes related to the integration of energy efficiency and demand response resources affects the avoided cost computations in the 2007 Report and in future avoided energy supply cost studies.
- In your opinion, will the new Legislation passed in Massachusetts that will allow for significantly more energy efficiency funding expected to significantly affect DRIPE values in the next year or two, and beyond?
- Explain how electric energy loss factors were developed and how they affect the avoided costs and the “value” of energy efficiency programs.
- Explain if and how the 2007 Report takes into account any affects energy efficiency or demand response programs may have on reserve requirements.
- Discuss any affects that energy efficiency or demand response programs may have on regional energy and related requirements that have not been incorporated in the avoided cost calculations. Explain why they were not included.
- What portion of the benefits of residential energy efficiency programs are represented by avoided energy costs?
  - CFL
  - Replacement Window Program
  - High Efficiency Water Heating Program
  - Natural Gas High Efficiency heating system (conversion from oil)

### *RPS and General Additions*

- Refer to Exhibit 5-10 of the 2007 Study. Discuss why the data sources were selected. Are these sources widely accepted and the data has proven to be accurate?
- Discuss the use of the 14.3% system-wide reserve “target”. Is this fixed over the forecast period? Are there any “local” reserve requirements in New England? Also, please discuss how local requirements would affect avoided costs.

### *Retirements*

- Discuss any analysis of potential large generating unit retirements and how they would affect avoided costs.

### *Discount Rate*

- Please explain the rationale supporting the selection of the discount rate value used in the 2007 Report. Provide all supporting documentation, calculations, and data not already provided in the 2007 Report that supports that choice. How does the discount rate used in MA compare to those used in other states?

### *Environmental Adder for Carbon Dioxide*

- Which jurisdictions that use the 2007 Report results in evaluating energy efficiency and DSM programs include the “additional CO<sub>2</sub> costs”? Please discuss why some jurisdictions do not account for these costs.
- Discuss the use of environmental externalities in determining avoided costs associated with energy efficiency and other DSM programs by jurisdictions outside of New England. Please address which specific elements are quantified and how they are quantified.
- Discuss other “externalities” that are included in calculating avoided costs or energy efficiency and other DSM benefits. Specify where these are used and how they are quantified.